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MISCELLANEA.

The Productiveness of Marriages in England, 1696.—Gregory King observes, after giving the actual numbers of the population as computed, and the annual marriages and births in England in his time, “Whence we may observe that in 1000 coexisting persons,

There are 71 or 72 marriages in the country, producing 34·3 children.
 78 marriages in towns, producing . . . 35·2 children.
 94 marriages in London, producing . . . 37·6 children.

Whereby it follows—

1. That though each marriage in London produceth fewer people than in the country, yet London in general, having a greater proportion of breeders, is more prolific than the other great towns; and the great towns are more prolific than the country.

2. That if the people of London of all ages were as long-lived as those in the country, London would increase in people much faster, *pro ratâ*, than in the country.

3. That the reason why each marriage in London produces fewer children than the country marriages, seems to be—

1. From the more frequent fornications and adulteries.
2. From a greater luxury and intemperance.
3. From a greater intenseness to business.
4. From the unhealthiness of the coal-smoke.
5. From a greater inequality in age between the husbands and wives.

And that it may appear what the effect is of the inequality of ages in married couples, I have collected the following observations from a certain great town,* in the middle of the kingdom, consisting of near 3000 souls:—

1. That there is no child of any parents now living in the said town, where the wife is 17 years older than the husband, or the husband 19 years older than the wife.

2. That the whole number of children being 1060, the number of those where the mother was older than the father is 228, and where the husband was older than the wife, 832.

3. That one moiety of the whole number of children in the said town is the product of such parents where the husband is four or more years older than the wife.

4. That the greater number of children, with respect to any one number of years of difference in age between the husband and wife, is where the husband is two years older than the wife, the product whereof is 147, or a seventh part of the whole.

5. That an equality in age in the husband and wife is not so prolific as an inequality, provided that inequality exceed not a superiority of four years in the wife, or ten years in the husband; for the equality of years produced but 23 children, whereas one year's inequality in the age of the parents, either way, produced above 60.

6. That of the said 1060 children in the whole town, near three-quarters of them are the product of coalition from two years' superiority of age in the wife inclusive, to six years superiority of age in the husband inclusive.

7. That the highest powers in men and women for procreation is, in that town, at 31 years of age in the husband, and 28 in the wife; the produce of the former being 86 children, and of the latter, 83.

8. That one moiety of the said 1060 children are the product of fathers from 28 to 35 years of age inclusive, and of mothers from 25 to 32.

Whence it follows that a just equality, or too great an inequality of age in marriages, are prejudicial to the increase of mankind; and that the early or late marriages, in men and women, do tend little to the propagation of the human race.

* Lichfield.

Lastly. From a consideration of the male and female children in the said town, and the ages of their parents at the time when such children were respectively conceived, a scheme may be established of the powers of generation, and the inclination of the several coalitions towards producing the one or the other sex, according to the superiority of power in either sex at the time of such respective coalitions."—(Natural and Political Observations and Conclusions upon the State and Condition of England, 1696. By Gregory King, Esq., Lancaster Herald.)

Vital Statistics of Iceland.—Deaths by Drowning.—I believe that there is no country in Europe where the number of those who perish every year by drowning is so high as in Iceland. This results from fishing being the main occupation of the people. As the greater part of those who perish by drowning in Iceland are males, between 15 and 60 years of age, I have considered that circumstance in constructing the following table, in which I have made the comparison between Denmark, Iceland, and the Færoe Islands:—

	Iceland.	Færoe Islands.	Denmark.
Total number drowned from 1835–44	530·	41·	2503·
Average yearly number drowned	53·	4·	250·
Number of inhabitants on an average of the } census 1835, 1840, and 1841 }	57229·	7314·	1284817·
Drowned out of 100,000 living individuals	92·6	56·1	19·5
Drowned out of 100,000 males living between } 15 and 60 years }	351·6	196·9	67·3

It will hence be seen that the proportion of the drowned is more than five times as large in Iceland as in Denmark. If we compare the number of drowned in Iceland with the total number of deaths, it will be found that the proportion is 25·4 per cent. out of the total yearly number of males dying between 15 and 60 years of age.

Iceland is divided into 17 different districts. I have continued the computation for all those districts, and the number thus found indicates, in the most correct manner, where the best fishing places are to be found, and their yearly profit. I am inclined to believe that the rates which the fishing places are obliged to pay yearly to the Government, according to the greater or less profit of the fishery, are not paid with such an accuracy as the rate which the sea yearly enforces. I have also compared the proportion of other violent deaths (excepting suicides) to the population in Iceland, Færoe Islands, and Denmark, and found it to be, out of 100,000 living individuals, 22·9, 32·8, and 13·5 respectively. Here the proportion is highest in the Færoe Islands. The reason for this is that, next to the fishery, bird-catching is here the first employment of the people; but this occupation is very dangerous, as the birds build their nests on the high craggy rocks, of which these small islands consist.—(P. A. Schleisner, M.D., Statistical Journal, March 1851.)

Fertility of the Women of Iceland.—Almost all the foreigners who have travelled in Iceland, have mentioned the extraordinary fecundity of the nation as something remarkable. It is noticed, that marriages with 20 children and upwards occur frequently. But from such single facts, a general rule for the fertility of the nation cannot be deduced. I have tried to find it out. The fertility of a nation is generally indicated by the proportion of the children born to the whole population. Dr. Kayser, Professor of Statistics at the University of Copenhagen, has made a correction in that test. Instead of fixing the births in proportion to the whole population, he fixes them in proportion to the whole number of women at the fertile age, which, for the northern countries, is between 20 and 50 years.

I shall make the comparison between the results obtained by Dr. Kayser

for Denmark, and mine for Iceland. Kayser's computation is founded on the series of years partly from 1830-44, and partly from 1827-44; mine is founded on the 10 years 1838-47.

	Average yearly number of births.	Average number of married women between 20 and 30 years.	Proportion of births to 100 women between 20 and 50.
Denmark	39,878	262,871	15·2 per cent.
Iceland	2,054	12,117	16·9 „
	Average yearly number of legitimate births.	Average number of married women between 20 and 50 years.	Proportion of legitimate births to 100 married women between 20 and 50 years.
Denmark	35,666	150,985	23·6 per cent.
Iceland	1,774	6,287	28·2 „
	Average yearly number of illegitimate births.	Average number of unmarried women between 20 and 50 years.	Proportion of illegitimate births to 100 unmarried women between 20 and 50 years.
Denmark	4,313	111,886	3·77 per cent.
Iceland	280	5,830	4·8 „

The proportion of boys born to girls, 105·7 per cent. in Denmark, and 106 in Iceland; and out of the whole number of births, 1·23 per cent. are twins, and ·015 per cent. are triplets in Denmark, whilst 1·43 per cent. are twins, and ·095 per cent. are triplets in Iceland.

It will hence be seen, that the fertility of the Icelandic women, both married, and especially unmarried, is a great deal greater than that of the Danish, but that the population, in point of fertility, is not so well composed as the Danish. In Denmark, the number of married women out of the whole number of fertile women is 57·4 per cent., while in Iceland it is only 51·9 per cent. It will be seen from the above table, that the number of male births exceeds that of female births in a higher degree in Iceland than in Denmark. I have already shown that the probable lifetime of the Icelandic females, in relation to the males, is still better than in Denmark: hence it will not excite wonder to find, that in the Icelandic population the proportion of the males to the females is as 1000 to 1120; while the proportion in Denmark is as 1000 to 1023. The proportion of still-born children is more favourable in Iceland than in Denmark; the proportion of still-born children to the whole number of births in the former being 3·3 per cent., and in the latter 4·4 per cent. The proportion of still-born males to the whole number of male births was in Iceland 3·6 per cent., in Denmark, 4·9 per cent.; and of still-born females to the whole number of female births in Iceland, 2·9, and in Denmark 3·8 per cent. It is also the case in Iceland as elsewhere, that this proportion is less favourable in the illegitimate births than in the legitimate.—*Ibid.*

Population of New South Wales.—An official document containing the statistics of New South Wales, including Port Philip, from 1840 to 1849, has just reached this country, and furnishes, from the complete and creditable way in which it has been got up, a remarkable view of the progress of that colony with regard to population. It appears in the 10 years nearly to have doubled; the total in 1840 having been 129,463, while in 1849 it was 246,299, of which number 101,470 were females. The proportionate excess of males was much greater in 1840 than at present; but the rapid diminution of the disparity is not to be attributed so much to the greater evenness of the subsequent immigration, as to the extended duration of female life compared with that of the other sex, and to the fact of the children born being more nearly balanced. Of 75,481 births since 1840, 38,310 were males, and 37,171 were females; while of 25,821 deaths amongst the entire population, 15,978 were males, and only 9843 were females. In deaths amongst adults, the number of men each year is nearly twice that of women, owing doubtless in a great degree to habits of intemperance. The number of marriages in 1849 was such as to indicate the returning prosperity of the country. After the commercial convulsion and the check to

immigration, they had fallen from 2511 to about 1800, from which there was little variation until 1849, when the total was 2365. The year of the largest immigration was 1841, when it reached 22,483. The lowest year was 1846, after the land and banking disasters, when it fell to 402. In 1849 it was again large, and amounted to 19,340. The total immigration since the foundation of the colony appears to have been 107,403, of whom 82,933 were despatched at the public expense; the total paid from the territorial revenue, from 1832 to 1849, having been £1,309,447. Since 1839 the religions of the public emigrants have been recorded, and there appear to have been 46,869 Protestants, 23,337 Catholics, and 79 other denominations.—*Times*, 12 June, 1851.

Schleswig and Holstein.—The Hamburgh journals state, that an unusually high rate of mortality prevails among the Hungarian soldiers who form part of the garrison of Rendsburg, and that cases of suicide are also frequent among them. The Tyrolese regiments also suffered much when in the district,—the mountaineers of the South soon became afflicted with *heimweh*, and pine among the flat, sandy plains of the North.—*Ibid.*

The Irish Census.—Ireland has long been a mystery and an anomaly in the west of Europe. When it had existed for four centuries in a chronic state of anarchy and rebellion, the country was almost depopulated under the last of the Tudors and the first of the Stuarts. After the savage and sanguinary rebellion of 1641, it was conquered and chastised by Cromwell as few countries in historical records have ever been; and in the next generation the arms of the Prince of Orange again swept the land of its ill-fated inhabitants. If the returns made by Sir William Petty and Captain Smith may be trusted, the population fell one-fourth between 1672 and 1695. During the fifty years then drawing to a close, a large and influential settlement of English took place in the north. Manufactures were introduced by these new and industrious settlers; the old population was governed by the strong arm of authority; and, strangely enough, after the war with William, as had been the case after that with Cromwell, the country rose out of its depth of poverty and misery, agriculture and trade revived, and the counties of Ulster—hitherto a wild and desolate region—began to assume something of the appearance of Kent and Norfolk. Between 1695 and 1754, the population increased from 1,034,102 to 2,372,634. From this time there was a steady increase, the numbers for 1791 being returned in the hearth-money estimates at 4,200,612,—and those in the first census, that of 1821, at 6,801,827. From 1821 to 1831, the progress of population was rapid in the extreme for Ireland—the rise being no less than 965,574 souls, or about 14 per cent., in the decade. This, however, was the period of greatest increase. Between 1831 and 1841, the sum total of the increase fell to 407,723—or about 5½ per cent. In the last decade, just published in the census returns, we have the astounding result—not merely of a failure to maintain the old rate of progress, but of a vast positive decrease in the population. In 1841, the population of Ireland was in round numbers 8,175,000;—it is now, for 1851, returned at 6,500,000.

At first sight, these figures seem to tell an incredible tale. They startle belief by the novelty of the facts which they indicate. In the English mind, progress has become of late years an apparently fixed law of nature; and on finding a bold and emphatic denial of that onward rule in close proximity to our own shores, and in a country bound to us by so many ties, we feel our ideas rudely and painfully shaken. From the Caucasus to Norway, from the Ural Mountains to the Pillars of Hercules, there is probably no example of a similar decline on any large geographical surface during the last ten years. With all their revolutions, civil wars and bombardments, France, Germany and Italy have not suffered like Ireland. Disease has inflicted severe losses on several large cities of the Continent, and ravaged the lines of many navigable rivers,—fire and sword have scattered the population of fortified towns like Arad, Brescia, Rastadt and Mantua,—but the aggregate quantity of human

life has not been reduced to a large extent in any of these countries. In Ireland, not less than a quarter of the inhabitants has been cut off or removed in ten years—a fact with hardly a parallel in history. Cromwell's destroying sword and inexorable policy were as nothing to the more effective causes which have recently been in operation. His stormings and forced expatriations cleared the soil of some thousands,—the new victims of poverty, cholera, famine, fever, despair and emigration are to be counted by millions!—*Athenæum*, July 12, 1851.

Fires in Paris, and Accidents arising from them.—Pendant les six premiers mois de 1851, les Sapeurs Pompeurs de la ville de Paris ont été appelés à éteindre 966 incendies ou feux de cheminées, savoir :—

	Incendies.	Feux de cheminées.
En Janvier	30	171
Février	23	194
Mars	20	193
Avril	14	136
Mai	15	114
Juin	21	35
	<hr/> 123	<hr/> 843

Ces sinistres ont occasionné des blessures graves à trois sapeurs et à six habitants des lieux incendiés; en outre, vingt-cinq sapeurs ont été malades des suites de l'asphyxie qu'ils avaient éprouvée notamment de ces feux de cave. Deux de ces militaires ont été pour leur belle conduite décorés de la Légion d'Honneur, et plusieurs autres ont reçu des médailles d'honneur.—*La Presse*, 26 July, 1851.

CORRESPONDENCE.

LIFE-CONTINGENCY PROBLEMS.

To the Editors of the Assurance Magazine.

GENTLEMEN,—I now send you my solutions of the three Problems which I proposed in Number II. of the Magazine.

Annuities.—Taking that form of the Column System in which $N \div D = (1 + A)$, *i. e.* the value of a pre-annuity, or an annuity payable in advance, or at the *beginning* of each year, then $N_1 \div D = A$, or the ordinary annuity, may be considered as a pre-annuity *deferred* one year. In the same manner, an annuity payable by two equal instalments during the year may be considered as two deferred pre-annuities,—the one deferred six months, the other deferred twelve months; and (*generaliter*) an annuity payable by n instalments during the year may be considered as n separate pre-annuities severally deferred one, two n parts of the year. Hence, the formula deducible, according to the Column System, for an annuity payable by n instalments during the year would be $(N_{1:n} + N_{2:n} + N_{3:n} + \dots + N_n) \div nD$. In place therefore of interpolating the original Table of Mortality, it will be sufficient to interpolate the values of N from N to N_1 ; and it is obvious this can be done to any degree of practical precision by aid of the calculus of Finite Differences, based on a sufficient number of collateral terms.

The ordinary and useful formula of adjustment by which an annuity